

Launch Mission Execution Forecast

Mission: Falcon 9 Inspiration-4

Issued: 14 Sep 2021 / 1000L (1400Z)

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Forecast Discussion: Easterly flow along the southern periphery of the Bermuda ridge will keep the Space Coast free of convection by early afternoon. Onshore low-level flow allows the east coast sea breeze to move inland rapidly, keeping most afternoon/evening convection on the western half of the peninsula. On Wednesday, the Spaceport will be sandwiched between two tropical systems with Nicholas over Louisiana and a weak circulation northeast of the Bahamas. This will weaken the low-level flow along the Space Coast, but liftoff weather continues to look favorable. Depending on how far north the Bahama system's influence extends, the ascent corridor could see elevated winds and precipitation. The primary launch weather concerns are Flight Through Precipitation with coastal showers and the Anvil Cloud Rule associated with inland storms.

On Thursday, the Atlantic tropical system will likely move east of South Carolina as the remnants of Nicholas approach the Florida Panhandle. This will change the overall wind pattern across Central Florida, making it southwesterly with convection closer to the east side of the peninsula. The ascent corridor remains a threat for elevated winds and precipitation with the tropical system in the vicinity. The primary weather concerns for a Thursday launch attempt are Flight Through Precipitation and the Debris Cloud Rule from the afternoon's convection.

	Probability of Violating Weather Constraints								
Day	20% Primary Concerns: Flight Through Precipitation, Anvil Cloud Rule								
ch	Weather Conditions							Additional Risk Criteria	
aunch	Weather/Visi	bility:	Isold Showers /7 mi.	Туре	Clouds Coverage	Base (ft)	Tops (ft)	Onshore Winds:	Low-Mod
Ľ	Temp/Humid	ity:	78°F / 84%	Cumulus	Few	3,000	10,000	Recovery/Ascent Weather:	Moderate
	Liftoff Winds (200'): 11		110° 10 - 15 mph	Altocumulus	Scattered	12,000	15,000	Solar Activity:	Low
	Probability of Violating Weather Constraints								
30% Primary Concerns: Flight Through Precipitation, Debris Cloud Rule									
							Additional Risk Criteria		
24-Hour	Weather/Visi	bility:	Isold Showers / 7 mi.	Туре	Clouds Coverage	Base (ft)	Tops (ft)	Onshore Winds:	Low
24	Temp/Humidity:		80°F / 82%	Cumulus	Scattered	3,000	10,000	Recovery/Ascent Weather:	Moderate
	Liftoff Winds	(200'):	150° 8 - 12 mph	Altocumulus	Broken	12,000	15,000	Solar Activity:	Low

Note: The Probability of Violation (POV) is the chance that a Lightning Launch Commit Criteria (LLCC) or certain user constraints (surface winds, precipitation, and temperatures, etc.) will be violated during the launch window. It does not take into account upper-level wind shear, booster recovery weather, and solar activity.

Next Forecast Will Be Issued

As Required